A Squall of Rage: Suicide, Homicide, and Violent Injuries in Southeast Alaska.

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Researchers noted the problem of violence among Alaska Natives at least as early as 1968, when Brenneman reviewed the problem of battered children in Anchorage, Alaska.[1] Other researchers have looked at specific violence-related topics among Alaska Natives such as suicides, perpetrators of homicides, and homeless victims of violent injuries.[2,3,4] However, I found no research that details the epidemiology of all violent injuries among a specific Native population over a lengthy period of time. In this paper, I establish that violent injuries are a significant public health problem for Southeast Alaska Natives.

Methods

Mortality:

I obtained intentional death data for Southeast Alaska from the Alaska Bureau of Vital Statistics for the ten-year period of January, 1980 – December, 1990.[5] The data included deaths of Southeast Alaska residents who died outside of Southeast Alaska and non-residents who died in Southeast Alaska.[6] This study focused on intentional deaths and deaths with undetermined intent as defined by the ICD9-CM E-codes 950.0-969 and 980.0-989. I found the following limitations in the data set: under-reporting of certain fields, such as education level of the deceased, the hour of death, and the specific method used. Also, this data set excluded information on the place of occurrence, alcohol or drug involvement in the death, and the circumstances of death--all pertinent variables in developing interventions. Finally, two previous studies had found suicides under-recorded in state records.[7,8] I calculated rates based on 1980 and 1990 US Census data. I used Epi Info version 5 to analyze my data.

Morbidity:

I obtained hospital trauma data for Southeast Alaska from the Alaska Trauma Registry for the period December, 1988 – December, 1991. The data included only injuries first seen in Southeast Alaska hospitals, regardless of the patient's community or state of residence. It excluded Southeast Alaska residents treated in hospitals outside the region. The Trauma Registry began in March, 1988 and became a statewide registry in 1990 with the voluntary participation of Alaska's 24 acute-care hospitals. Because the Registry defines trauma as "an external force on the body," it does not include patients with internal poisonings.[9]

Results

Mortality:

From January, 1980 – December, 1990, 220 Southeast Alaskans died from suicide, homicide, or injuries with undetermined intent. 65% of these people died from suicide, 24.1% from homicide, and the remaining 10.9% from injuries with undetermined intent. Males accounted for 80.5% of the deaths. Caucasians accounted for 59.4% of the deaths and 77% of Southeast's population, Natives 37.4% of the deaths and 18.6% of the population, Asians accounted for 2.3% of the cases and 3% of the population, and African-Americans accounted for .9% of the cases and less than 1% of the population. 61% of all the deaths happened to people ages twenty to thirty-nine, with the largest percentage, 32.7%, among people age twenty to twenty-nine. This held true for both males and females.

92% of the deaths occurred in Southeast Alaska, 6% occurred out-of-state, and 3% occurred in other regions of Alaska. The census areas of Juneau, Sitka, and Prince of Wales Island had a smaller percentage of deaths than their percentage of the population. However, the census area that includes the communities of Angoon, Hoonah, Tenakee, Gustavus, Pelican, Skagway, and Yakutat, had 11% of the deaths and only 6% of Southeast's population. The census area that includes the communities of Wrangell, Petersburg, and Kake also had 11% of the deaths and 10% of the population. However, there were no deaths in the largest community in that census area, Petersburg, and 66.6% of the all the deaths in that census area were from the smallest community, Kake.

The majority of violent deaths in Southeast Alaska were suicides. 143 people killed themselves during the ten-year study period. 112 people (78% of all suicides) used a firearm to commit suicide. 60% of these firearm suicides were by "unspecified firearm," followed by handgun (22%) and rifle (15.2%). Females were 16.8% of the suicides, males 83.2%. 73.4% of all suicides (105 total) occurred among people ages 15-39, with people 20-29 committing suicide most commonly (35.6% of all suicides). People 40-49 accounted for another 16.8% (24) of the suicide deaths.

From 1980–1990, 53 Southeast Alaskans died from homicide. 32 people (60.4% of all homicides) died from firearm wounds. Slightly more than seventy-eight (78.1)% of these firearm deaths were from an unspecified type of firearm, 12.5% were from a hunting rifle, and the rest specified as a shotgun or handgun. After firearm injuries, people died most often from injuries caused by a cutting or piercing instrument. These injuries accounted for 18.9% of all

homicide deaths. 22.6% of the homicide victims were female, 77.4% were males. The majority of female and male victims died from a firearm injury, 50% of the females and 63.4% of the males. Most of these firearm deaths were unspecified, 83% of the female deaths and 76.9% of the male. 60.4% of the victims were ages 15-39, with young people 20-29 killed most commonly (28.3% of all homicides).

23 homicide victims were of Native ancestry (43.4% of all homicides) and 27 were Caucasian (50.9% of all homicides); the remaining victims were of Asian ancestry. Caucasians died most often from firearms: 22 (81.5%) of the cases. 77.2%, of these firearm deaths were by an unspecified weapon. Among Native homicides, firearm injuries accounted for only 39.1%. Native deaths from cutting or piercing instruments were almost as numerous, accounting for 26.1% of the deaths. 43.5% of the Native victims resided in Juneau, followed by Hoonah, which was home to 17.4% of the victims. Most Caucasian victims (51.9%) lived in Juneau, followed by Ketchikan, home to 22.2% of the Caucasian victims. However 47.8% of the Native victims died in Juneau, 13% died in Hoonah, and 8.7% died out-of-region. 48% of the Caucasian victims died in Juneau, 22.2% died in Ketchikan, and 11.1% died out-of-state.

24 were deaths coded "injury undetermined whether accidentally or purposely inflicted"[10]. More than half of the victims (58.3%) were of Native ancestry; the remainder was Caucasian. 21% of the deaths were the result of an unspecified drug or medicinal substances, another 20.8% were the result of an unspecified firearm, and 16.7% were due to submersion.

The crude rate for Native homicides for this ten-year period was 21. 2 per 100, 000. For Caucasians, the rate was 5.6 per 100,000. This is a ratio of 3.8 Native homicides for every Caucasian homicide. The crude rate for this ten-year period for Native suicides was 42.4 per 100,000 and the corresponding Caucasian suicide rate was 19.4 per 100,000 for a ratio of 2.2 Native suicides per Caucasian suicide. For deaths with undetermined intent, the crude rate for Natives during the ten-year period was 13.2 per 100,000 and for Caucasians it was 2.1 per 100,000. These rates yielded a ratio of 6.3 undetermined Native deaths per one Caucasian death.

Southeast Natives lost a total of 780 years of potential life due to homicide, 1,639 years due to suicide and 433 years due to deaths with undetermined intent. Southeast Caucasians lost 782 years of potential life due to homicide, 2,639 due to suicide, and 277 years due to undetermined intent.

Morbidity:

From December, 1988 – December, 1991, the Alaska Trauma Registry listed 37 intentional injuries in Southeast Alaska. The majority (81.1%) of the injured received their wounds during an assault. 70% of these assaults were unarmed brawls; there were no assaults involving firearms listed. 10.8% of these injuries were suicide attempts; 25% of the attempts involved a firearm (1 total). The remaining injuries were listed as undetermined intent and "injury resulting from operations of war."[10] 57% of the victims were Native, 29.7% were Caucasian, ancestry was unknown for 8.1% of the injured, and the remainder were Latino or African-American. 54% of the injuries occurred among people 20-29. 32.5% of the victims were female, 67.5% male. Females accounted for all injuries occurring to people age ten to nineteen.

26.7% of the victims resided in Sitka, which has only 12% of Southeast Alaska's population. Another 26.7% of the victims resided in Juneau (39% of Southeast Alaska's population) and the second largest share of the victims resided in Ketchikan (20% of the victims). One victim resided outside of Alaska. 70.2% of the injuries occurred in Juneau, Ketchikan, and Sitka. 40.5% victims received their injuries in their own home or another person's home. Most intentional injuries (55.5%) occurred during the months of July, August, and September. Injuries also peaked in December, which had 11.1% of the intentional injuries. Blood alcohol levels were not tested in thirty-one of the thirty-seven cases. Five of the six cases tested showed elevated levels of blood alcohol.

Discussion

Mortality:

A 1987 study found that "Alaskans committed suicide more frequently and at younger ages than observed in recent national statistics" and that over 80% of the suicides are males.[2] My findings agree. Also, in Southeast Alaska, there is no doubt that Native people suffer from suicide to a greater extent then Caucasians. For every one Caucasian death there are two Native deaths. Although the Southeast Native suicide rate is lower than the overall Alaska Native rate, both are considerably higher than national rates for all American Indian/Alaska Natives. Hladly and Middaugh stated that most suicides in Alaska were impulsive, occurred at home and involved alcohol and firearms.[2] I can only confidently state that most Southeast suicides involved firearms. The data set I obtained contained no information on alcohol or drug involvement, the place of occurrence, or the circumstances surrounding death. There was also very little information on the educational levels of the decedent, the hour of death, and type of method. All this information is essential to plan interventions. Unfortunately, one must seek out the nineteen magistrates in Southeast Alaska and hope they permit access to coroners' reports in order to obtain this information.

Given the geographic barriers, this would be a costly venture in time and money.

An MMWR report on homicide states that the 1980 homicide rate of 10.7/100,000 "was the highest of the decade and the highest rate ever recorded for the United States."[12] Natives in Southeast Alaska have double to triple this rate. When comparing Southeast Natives with Southeast Caucasians, I found 3.8 Native homicide victims for every 1 Caucasian victim. Of the 12 female homicide victims, there was too little information to determine if they were casualties of domestic violence. For deaths with undetermined intent, 58.3% were Southeast Natives. This is likely to result from many victims residing in smaller Southeast communities without highly trained coroners.

Morbidity

The vast majority of violent injuries seen in Southeast were due to assaults, most of these unarmed brawls. The number of self-inflicted injuries listed in the data studied was quite low. This seems unusual given that some researchers speculate there is "as many as 100 suicide attempts for every completion"[11] and that most of the violent deaths in Southeast Alaska (65%) were from suicide. One explanation for this may be that my data excluded all suicide attempts involving ingestion of a substance. However, most suicides in Southeast involved a firearm, followed by suffocation/strangulation; neither of these death patterns is reflected in the morbidity data.

The majority (57%) of the victims of violent injuries were Native, although Native people make up only 18.6% of the population. In addition, the data from the Native hospital in Southeast lagged behind the region's other acute-care hospitals in trauma registry reports. When that hospital submits the remainder of their reports for the study period, the number of violent injuries to Southeast Natives wills likely increases. More than half, 54%, of the injuries occurred to people twenty to twenty-nine, an even younger group than for homicides and suicides. Also, females accounted for more injuries, 32.4%, than for suicides and homicides. And females accounted for all the injuries received by people ten to nineteen. The narrative data field provided too little information to speculate if these injuries to females were the result of domestic violence, although almost half of all victims received their injuries in their own or another's home.

Lastly, the morbidity data set studied is currently too new and incomplete to draw definitive conclusions from these findings.

Conclusion

For every one Caucasian suicide, two Natives kill themselves. For every one Caucasian murder, almost four Natives die from homicide. And for every one Caucasian whose death intent remains undetermined, there are over six Native deaths with undetermined intent. Add to these deaths, the fact that Natives experienced more than half of all violent injuries and I conclude that violent injuries constitute a major problem for Southeast Alaska's Native people. Further research needs to be done to establish violent injuries' toll in relation to other health problems among Southeast Natives, such as other injuries, cancer, heart disease, diabetes, etc., before a shift in resource allocation for prevention can be recommended. Future research also needs to focus on the circumstances surrounding the deaths and injuries (place of occurrence, who specifically is at risk, etc.) in order to find the best ways to intervene and prevent these tragic deaths. Meanwhile, I suggest that regional Native organizations, such as the Southeast Alaska Regional Health Corporation, Tlingit-Haida Central Council, and the Alaska Native Brotherhood/Sisterhood Grand Camp, form a task force along with law enforcement officials, mental health and public health professionals to look at ways to reduce the violence experienced by Southeast Natives and to increase the public's awareness of violence as a health problem.

In addition, this study found firearms responsible for the vast majority of homicides and suicides in Southeast Alaska. However, unspecified firearms accounted for most of these deaths. To further prevention efforts, public health professionals and advocates need to know what type of firearm caused these deaths. Further research to determine the type of firearm used in these violent deaths is definitely needed.[11-13]

Lastly, a redesign of Alaska's system of filing and storing death certificates, preferably in a central location for each region, would greatly benefit public health researchers. Also needed are uniform protocols for public health researchers to access death certificate information.

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